

Emulex 8Gb Fibre Channel Single-port and Dual-port HBAs for IBM System x

IBM System x at-a-glance guide

Streamlined installation and management, plus unrivaled scalability and industry-leading virtualization support make the Emulex 8Gb Fibre Channel single-port and dual-port host bus adapters ideal solutions for enterprise and mixed-OS environments. With powerful management tools, they deliver maximum performance in the widest range of applications and environments.

Figure 1 shows the single-port and dual-port adapters.

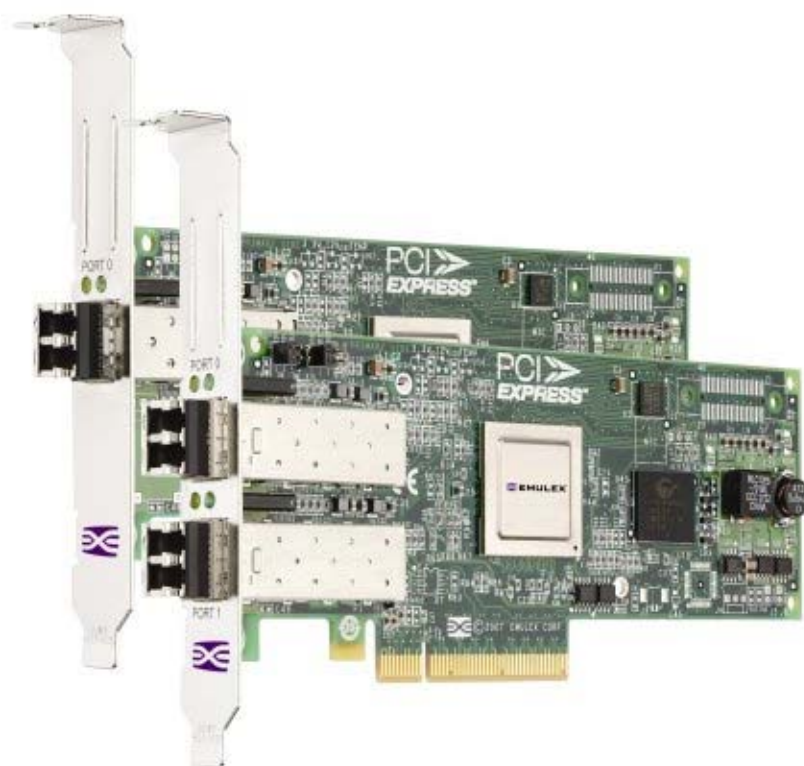


Figure 1. Emulex 8Gb Fibre Channel single-port and dual-port HBAs for IBM System x

Did You Know?

The configuration of the Emulex 8 Gb HBAs is fully integrated in the IBM UEFI interface which results in an easy to use and intuitive way to set up the adapter. The HBAs provide the ability to build high-performance, highly available SANs and are easy to set up and integrate into existing SAN configurations. Emulex 8Gb HBAs use passive cooling devices to deliver enhanced thermal protection for highest reliability and maximum server availability.

Part number information

Table 1. Ordering part numbers and feature codes

Description	Part number	Feature code
Emulex 8Gb FC Single-port HBA for IBM System x	42D0485	3580
Emulex 8Gb FC Dual-port HBA for IBM System x	42D0494	3581

The part numbers for the Emulex 8Gb FC Single-port and Dual-port HBAs include the following items:

- FC HBA adapter with one or two SFPs installed and 3U bracket attached
- Quick install guide
- Support CD
- 2U bracket
- Safety flyer

Features

- Standard PCI Express card with low profile form factor
- One or two independent Fibre Channel ports with optical modules included
- PCI Express 2.0 host interface
- Support for both standard and low-profile PCI Express slots
- Auto-negotiation between 2 Gb, 4 Gb, or 8 Gb link attachments
- Processes over 200K I/O operations per second (IOPS), per port
- Support for up to 1600 MB per second maximum at full-duplex, per port

Fibre Channel specifications

- Full support for all Fibre Channel topologies, including point-to-point (N_Port), arbitrated loop (NL_Port), and switched fabric (N_Port)
- Support for F_Port and FL_Port login
- Full support for Fibre Channel services class 2 and 3
- Up to 4096 FC port logins and up to 4096 concurrent exchanges per FC port

Operating environment

The adapter is supported in this environment:

- Temperature:
 - Operating: 0° to 55°C (32° to 131°F) at 0 to 914 m (0 to 3,000 ft)
 - Storage: -40° to 70°C (-40° to 158°F) at 914 to 2,133 m (3,000 to 7,000 ft)
- Relative humidity:
 - 5% to 95%, non-condensing

Warranty

Three-year limited warranty. When installed in a System x server, these cards assume your system's base warranty and any IBM ServicePac upgrade.

Supported servers

The Emulex 8Gb FC Single-port and Dual-port HBAs for IBM System x are supported in the IBM System x servers listed in Table 2.

Table 2. Supported servers

Adapter	x3200 M2	x3200 M3	x3250 M2	x3250 M3	x3350	x3400	x3400 M2	x3455	x3500	x3500 M2	x3550	x3550 M2	x3650	x3650 M2	x3655	x3755	x3850 M2	x3950 M2
Emulex 8Gb FC Single-port HBA	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Emulex 8Gb FC Dual-port HBA	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

See IBM ServerProven for the latest information on the adapters supported by each System x server type:
<http://ibm.com/servers/eserver/serverproven/compat/us/>.

Popular configurations

This section illustrates how the Emulex 8Gb FC Single-port and Dual-port HBAs can be used in configurations.

Figure 2 shows the Emulex 8Gb FC Dual-port HBAs installed in a supported x3650 M2 server. The server is connected to the IBM System Storage DS3400.

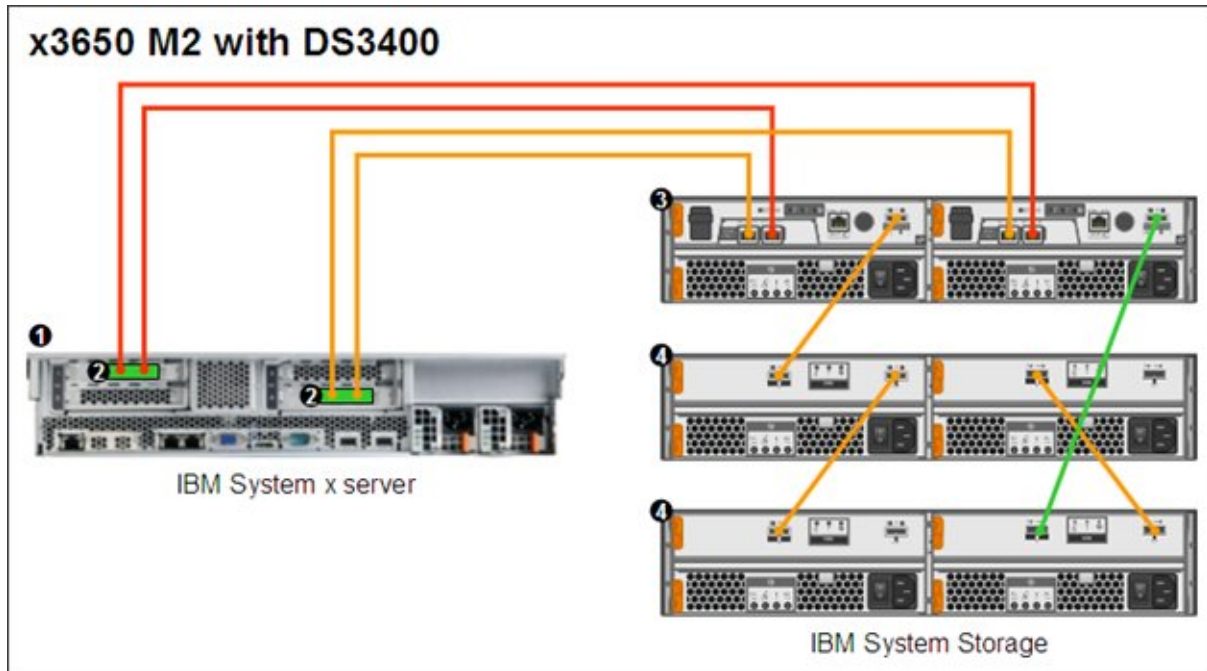


Figure 2. x3650 M2 server connected to an external IBM System Storage DS3400 storage solution

The parts used are listed in Table 3.

Table 3. Components used when connecting Emulex 8Gb FC Dual-port HBA to external disk storage (as shown in Figure 2)

Diagram reference	Part number/machine type	Description	Quantity
1	Varies	x3650 M2 or other supported server	1
2	42D0494	Emulex 8Gb FC Dual-port HBA	2 per server
3	1726-42X	IBM System Storage DS3400 (Dual Controller)	1
4	1727	IBM System Storage EXP3000 (Dual ESM)	2

This configuration also requires cabling between the server and the storage and between the storage server and expansion units. (The cable part numbers are not listed in Table 3.)

Figure 3 shows the Emulex 8Gb FC Single-port HBAs installed in a supported x3650 M2 server. The servers are connected to the IBM System Storage DS4700 using IBM System Storage SAN24B-4 switches and form 2-node cluster solution.

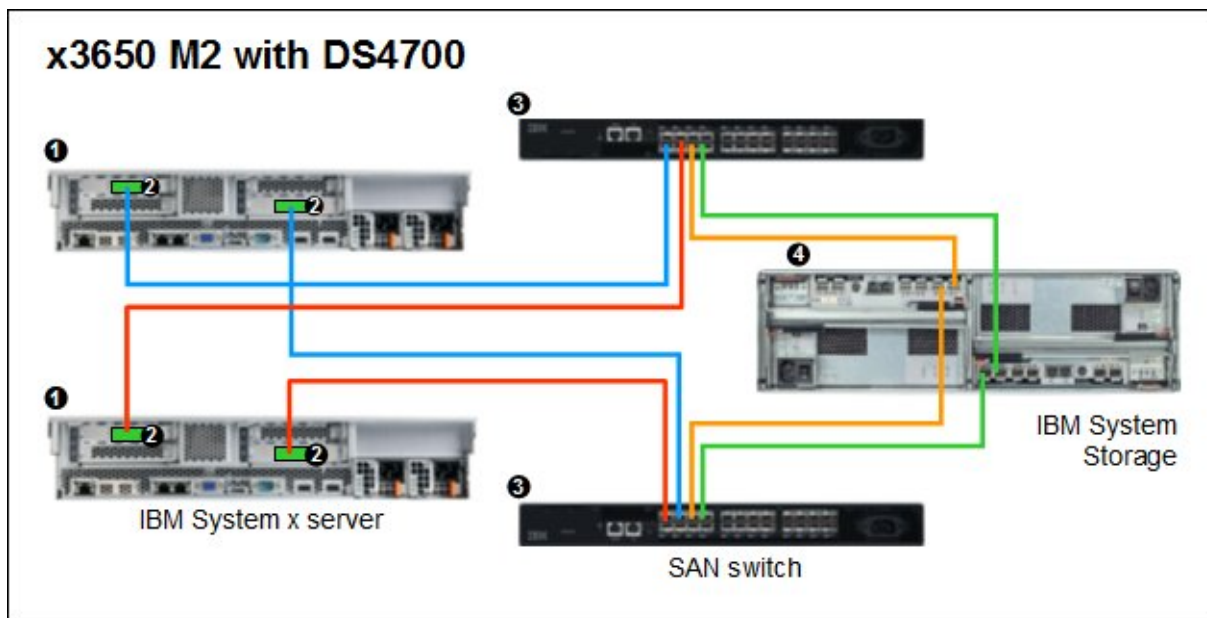


Figure 3. x3650 M2 server connected to an external IBM System Storage DS4700 using SAN switches

The parts used are listed in Table 4.

Table 4. Components used when connecting Emulex 8Gb FC Single-port HBA to external disk storage (as shown in Figure 3)

Diagram reference	Part number/machine type	Description	Quantity
①	Varies	x3650 M2 or other supported server	1
②	42D0485	Emulex 8Gb FC Single-port HBA	2 per server
③	Varies	IBM System Storage SAN24B-4 or other SAN switch	2
④	1814-70A or 1814-70H	IBM System Storage DS4700 (Model 70 or Model 72)	1

This configuration also requires cabling between the servers and the SAN switches and between the SAN switches and storage system. (The cable part numbers are not listed in Table 4.)

Supported operating systems

The Emulex 8Gb FC Single-port and Dual-port HBAs for IBM System x support the following operating systems:

- Microsoft Windows Server 2003, Web Edition
- Microsoft Windows Server 2003/2003 R2, Datacenter Edition
- Microsoft Windows Server 2003/2003 R2, Datacenter x64 Edition
- Microsoft Windows Server 2003/2003 R2, Enterprise Edition
- Microsoft Windows Server 2003/2003 R2, Enterprise x64 Edition
- Microsoft Windows Server 2003/2003 R2, Standard Edition
- Microsoft Windows Server 2003/2003 R2, Standard x64 Edition
- Microsoft Windows Server 2008 R2
- Microsoft Windows Server 2008, Datacenter x64 Edition
- Microsoft Windows Server 2008, Datacenter x86 Edition
- Microsoft Windows Server 2008, Enterprise x64 Edition
- Microsoft Windows Server 2008, Enterprise x86 Edition
- Microsoft Windows Server 2008, Standard x64 Edition
- Microsoft Windows Server 2008, Standard x86 Edition
- Microsoft Windows Server 2008, Web x64 Edition
- Microsoft Windows Server 2008, Web x86 Edition
- Microsoft Windows Small Business Server 2003/2003 R2 Premium Edition
- Microsoft Windows Small Business Server 2003/2003 R2 Standard Edition
- Microsoft Windows Storage Server 2003/2003 R2, Enterprise Edition x64
- Microsoft Windows Storage Server 2003/2003 R2, Standard Edition
- Microsoft Windows Storage Server 2003/2003 R2, Standard Edition x64
- Red Hat Enterprise Linux 4 AS for AMD64/EM64T
- Red Hat Enterprise Linux 4 AS for x86
- Red Hat Enterprise Linux 4 ES for AMD64/EM64T
- Red Hat Enterprise Linux 4 ES for x86
- Red Hat Enterprise Linux 4 WS/HPC for AMD64/EM64T
- Red Hat Enterprise Linux 4 WS/HPC for x86
- Red Hat Enterprise Linux 5 Server Edition
- Red Hat Enterprise Linux 5 Server x64 Edition
- SUSE LINUX Enterprise Server 10 for AMD64/EM64T
- SUSE LINUX Enterprise Server 10 for x86
- SUSE LINUX Enterprise Server 9 for AMD64/EM64T
- SUSE LINUX Enterprise Server 9 for x86
- VMware ESX 3.5

See IBM ServerProven for the latest information about the specific versions and service packs supported: <http://ibm.com/servers/eserver/serverproven/compat/us/>. Click **System x servers**, and then click **Shared storage adapters** to see the support matrix. Click the check mark that is associated with the System x server in question to see the details of operating system support.

Related publications

For more information, refer to the following resources:

- Emulex 8Gb FC Single-port and Dual-port HBAs for IBM System x Quick Installation Guide
<http://www.ibm.com/support/docview.wss?uid=psg1MIGR-5076984>
- Emulex 8Gb FC Single-port and Dual-port HBAs for IBM System x Installation and User's Guide
<http://www.ibm.com/support/docview.wss?uid=psg1MIGR-5076983>
- Emulex 8Gb FC Single-port and Dual-port HBAs for IBM System x Technical overview
<http://www.ibm.com/support/docview.wss?uid=psg1MIGR-5076846>
- 8Gb FC Single-port and Dual-port HBAs for IBM System x product page
<http://www.ibm.com/systems/storage/product/systemx/hba/8gbpcie.html>
- IBM US Announcement Letter
<http://ibm.com/common/ssi/cgi-bin/ssialias?infotype=dd&subtype=ca&&htmlfid=897/ENUS108-481>
- IBM System x Configuration and Options Guide
<http://www.ibm.com/support/docview.wss?uid=psg1SCOD-3ZVQ5W>

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